

WHAT IS CLAIMED IS:

1. A portable electronic device for use in a medical monitoring system that generates notification messages indicating that a patient being monitored may have a condition that requires attention and wirelessly transfers the notification messages to the portable electronic device, the portable electronic device comprising:

a processing circuit configured to receive the data associated with the notification messages;

a first wireless transceiver coupled to the processing circuit and configured to receive data associated with the notification messages and transfer at least some of the data to the processing circuit, the first wireless transceiver configured to operate using a first wireless data transfer method; and

a second wireless transceiver coupled to the processing circuit and configured to receive data associated with the notification message and transfer at least some of the data to the processing circuit, the second wireless transceiver configured to operate using a second wireless data transfer method different than the first wireless data transfer method.

2. The device of claim 1, wherein the first wireless data transfer method is a cellular data transfer method.

3. The device of claim 1, wherein the first wireless data transfer method is adapted to transfer data within a wireless local area network.

4. The device of claim 1, wherein the first wireless data transfer method comprises an IEEE 802.11 protocol.

5. The device of claim 4, wherein the second wireless data transfer method uses a cellular data transfer protocol.

6. The device of claim 1, wherein the processing circuit is configured to ascertain if data transfer is possible using the first wireless data transfer method.

7. The device of claim 6, wherein the processing circuit is configured to use the first wireless data transfer method if data transfer is possible using the first wireless data transfer method and to use the second wireless data transfer method if data transfer is not possible using the first wireless data transfer method.

- 5 8. The device of claim 1, wherein the processing circuit is configured to forward data received by the processing circuit using the first wireless transceiver and using the second wireless transceiver.

9. A method to be implemented by electronic devices of a medical monitoring system of a health care facility where a patient's physiological characteristics are being monitored for conditions that may require attention by a clinician, the method comprising:

5 receiving data from a monitoring device configured to monitor a patient;

determining whether the patient has a condition that may require attention based on the data received from the monitoring device;

10 sending a notification message to a portable electronic device using a first wireless data transfer method if the patient has a condition that may require attention; and

sending a notification message to the portable electronic device using a second wireless data transfer method different than the first wireless data transfer method if the patient has a condition that may require attention.

10. The method of claim 9, further comprising determining whether it is possible to transfer data to the portable electronic device using the first data transfer method.

11. The method of claim 10, wherein sending a notification message using the first wireless data transfer method and sending a notification message using the second wireless data transfer method comprises sending a particular notification message using only one of the first and second data transmission methods based on the determination whether it is possible to transfer data to the portable electronic device using the first data transfer method.

12. The method of claim 9, further comprising:

receiving a user input; and

25 transferring data associated with a notification message received by the portable electronic device using the first wireless data transfer method in response to the user input.

13. The device of claim 9, wherein the first wireless data transfer method is a cellular data transfer method.

14. The device of claim 9, wherein the first wireless data transfer method is adapted to transfer data within a wireless local area network.

5 15. The device of claim 9, wherein the first wireless data transfer method comprises an IEEE 802.11 protocol.

16. The device of claim 15, wherein the second wireless data transfer method uses a cellular data transfer protocol.

10 17. The method of claim 9, further comprising sending a notification message to the portable electronic device using a third wireless data transfer method different than the first wireless data transfer method and the second wireless data transfer method if the patient has a condition that may require attention.

18. The method of claim 17, wherein

15 the first wireless data transfer method comprises a cellular data transfer protocol; and

the second wireless data transfer method comprises a IEEE 802.11 data transfer protocol.

19. The method of claim 18, wherein the third wireless data transfer method comprises a Bluetooth data transfer protocol.

20 20. The method of claim 9, wherein the portable electronic device has a volume of no more than about 30 cubic inches.

21. A method to be implemented by electronic devices of a medical monitoring system of a health care facility where a patient's physiological characteristics are being monitored for conditions that may require attention by a clinician, the method comprising:

5 receiving data from a monitoring device configured to monitor a patient;

determining whether the patient has a condition that may require attention based on the data received from the monitoring device;

sending a notification message to a first portable electronic device using a wireless data transfer method if the patient has a condition that may require attention;

10 receiving a user input from a user input device; and

sending data associated with the notification message, which data was received by the first portable electronic device, to a second portable electronic device based on the user input.

22. The method of claim 21, wherein the first portable electronic device comprises the user input device.

23. The method of claim 21, wherein sending a notification message to a first portable electronic device using a wireless data transfer method comprises determining whether data transfer is available using a first wireless data transfer method and sending the notification message using only one of the first wireless data transfer method and the second wireless data transfer method based on whether data transfer is available using a first wireless data transfer method.

24. The method of claim 21, wherein the notification message comprises physiological data acquired from the patient.

25. The method of claim 21, wherein the data associated with the notification message comprises physiological data of the patient.

26. The method of claim 25, wherein the physiological data comprises waveform data.

27. The method of claim 26, wherein the waveform data comprises ECG waveform data.

5 28. The method of claim 21, wherein the portable electronic device has a volume of no more than about 30 cubic inches.

29. A method to be implemented by electronic devices of a medical monitoring system of a health care facility where a patient's physiological characteristics are being monitored for conditions that may require attention by a clinician, the method comprising:

5 receiving data from a monitoring device configured to monitor a patient;

determining whether the patient has a condition that may require attention based on the data received from the monitoring device;

sending a notification message to a first portable electronic device using a first wireless data transfer method if the patient has a condition that may require attention;

10 and

sending the notification message to a second portable electronic device using a second wireless data transfer method different than the first wireless data transfer method.

30. The method of claim 29, further comprising receiving a user input from a user input device of the first portable electronic device and sending data which had been displayed on the first portable electronic device and which is associated with a notification message to the second portable electronic device in response to the user input.

31. The method of claim 29, further comprising

20 receiving a user input from a user input device of the second portable electronic device when voice communication has been established between the first portable electronic device and the second portable electronic device; and

sending data which had been displayed on the first portable electronic device and which is associated with a notification message to the second portable electronic device in response to the user input.

32. The method of claim 29, wherein the first wireless data transfer method is a cellular data transfer method.

33. The method of claim 29, wherein the first wireless data transfer method comprises an IEEE 802.11 protocol.

5 34. The method of claim 29, wherein the second wireless data transfer method uses a cellular data transfer protocol.

35. A portable electronic device for use in a medical monitoring system that generates notification messages indicating that a patient being monitored may have a condition that requires attention and wirelessly transfers the notification messages to the portable electronic device, the portable electronic device comprising:

5 a processing circuit configured to receive the notification messages indicating that the patient being monitored may have a condition that requires attention;

a first radio frequency wireless transceiver coupled to the processing circuit and configured to receive data associated with the notification message, the first wireless transceiver configured to operate using a first wireless data transfer method;
10 and

a second radio frequency wireless transceiver coupled to the processing circuit and configured to receive data associated with the notification message, the second wireless transceiver configured to operate using a second wireless data transfer method different than the first wireless data transfer method.

15 36. The method of claim 29, further comprising receiving a user input from a user input device of the first portable electronic device and sending data which had been displayed on the first portable electronic device and which is associated with a notification message to the second portable electronic device in response to the user input.

37. A portable electronic device for use in a medical monitoring system that generates notification messages indicating that a patient being monitored may have a condition that requires attention and wirelessly transfers the notification messages to the portable electronic device, the portable electronic device comprising:

5 a processing circuit configured to receive the notification messages indicating that the patient being monitored may have a condition that requires attention;

a first wireless transceiver coupled to the processing circuit and configured to receive data associated with the notification message, the first wireless transceiver configured to operate using a cellular data transfer protocol; and

10 a second wireless transceiver coupled to the processing circuit and configured to receive data associated with the notification message, the second wireless transceiver configured to operate using a wireless local area network data transfer protocol.

38. The device of claim 37, wherein the wireless local area network data transfer
15 protocol is a IEEE 802.11 data transfer protocol.

39. A system for use in a medical monitoring system of a health care facility where a patient's physiological characteristics are being monitored for conditions that may require attention by a clinician, the system comprising:

5 a first processing circuit configured to receive data from a monitoring device configured to monitor a patient, determine whether the patient has a condition that may require attention based on the data received from the monitoring device, generate a control signal to send a notification message to a portable electronic device using a first wireless data transfer method if the patient has a condition that may require attention, and generate a control signal to send a notification message to the portable
10 electronic device using a second wireless data transfer method different than the first wireless data transfer method if the patient has a condition that may require attention;
and

the portable electronic device comprising a second processing circuit configured to receive data from a wireless signal comprising a notification message.

15 40. The system of claim 39, wherein the portable electronic device has a volume of no more than about 30 cubic inches.

41. The system of claim 39, wherein the first processing circuit is further configured to determine whether it is possible to transfer data to the portable electronic device using the first data transfer method.

20 42. The system of claim 39, wherein the first processing circuit is configured to associate particular portable electronic devices with particular patients being monitored.

43. A method to be implemented by electronic devices of a medical monitoring system of a health care facility where a patient's physiological characteristics are being monitored for conditions that may require attention by a clinician, the method comprising:

5 receiving data from a monitoring device configured to monitor a patient;
determining whether the patient has a condition that may require attention based on the data received from the monitoring device;
generating a notification message based on the determination that the patient has a condition that may require attention;

10 determining whether data transfer to a caregiver receiver is possible using a first wireless data transfer method;

sending the notification message to the caregiver receiver using the first wireless data transfer method if the patient has a condition that may require attention and data transfer is possible using the first wireless data transfer method; and

15 sending the notification message to the caregiver receiver using a second wireless data transfer method, different than the first wireless data transfer method, if the patient has a condition that may require attention and data transfer is not possible using the first wireless data transfer method;

20 wherein the first wireless data transfer method comprises using a local area network of the health care facility; and

wherein the notification message comprises physiological data acquired from the patient, the physiological data comprising one of live physiological data acquired from the patient and a window of physiological data acquired from the patient at about the time of the alarm.

25 44. The method of claim 43, wherein the physiological data included in the notification message comprises ECG waveform data.

45. The method of claim 44, wherein the second wireless data transfer method comprises using a cellular network to transfer data associated with the notification message.